
Application No.: 09/714,658Docket No.: 53786US012

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A foam article comprising a polymer foam, said polymer foam having at least one of its major surfaces smooth to an Ra value less than about 75 micrometers, as measured by laser triangulation profilometry, said polymer foam being smooth without being bonded to an additional layer,

said polymer foam comprising a homogeneous distribution of a plurality of thermoplastic expandable polymeric microspheres,
wherein said plurality of expandable polymeric microspheres are at least partially expanded.

2. (Previously presented) The foam article according to claim 1, wherein said polymer foam has a center and a uniform size distribution of said at least partially expanded expandable polymeric microspheres from the major surfaces to the center of said polymer foam.

3. (Original) The foam article according to claim 1, wherein said plurality of expandable polymeric microspheres are at least mostly expanded.

4. (Original) The foam article according to claim 1, wherein said polymer foam has a pattern embossed on at least one major surface of said polymer foam.

5. (Original) The foam article according to claim 4, wherein said pattern is a microreplicated pattern and said polymer foam is not significantly crushed.

6. (Original) The foam article according to claim 1, wherein said polymer foam is substantially free of broken polymeric microspheres.

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7. (Original) The foam article according to claim 1, whercin said foam article is a pressure sensitive adhesive article or a heat-activated adhesive article.

8. (Original) The foam article according to claim 1, whercin said polymer foam is an adhesive.

9. (Original) The foam article according to claim 1, wherein the foam article is one from the group consisting of gaskets, gap-sealing articles, vibration damping articles, tape backings, retroreflective sheet backings, anti-fatigue mats, abrasive article backings, raised pavement marker adhesive pads, medical dressings, and sealant articles.

10. (Previously presented) The foam article according to claim 1, whercin said polymer foam is stretched in at least one direction.

11. (Previously presented) The foam article according to claim 10, whercin said polymer foam has a matrix and contains microvoids between said matrix and said expandable microspheres.

12. (Original) The foam article according to claim 1, whcrein said polymer foam is crosslinked.

13. (Original) The foam article according to claim 1, wherein said foam article comprises at least one other polymer composition in the form of at least one discrete structure bonded to or embedded in said foam.

14. (Original) The foam article according to claim 13, wherein said at least one discrete structure is a plurality of discrete structures, and said polymer foam comprises an adhesive composition.

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15. (Previously presented) The foam article according to claim 1, further comprising a first substrate, wherein said polymer foam is on a major surface of said substrate and said foam article is a multi-layer article.

16. (Previously presented) The foam article according to claim 15, further comprising a second substrate having a major surface, wherein said polymer foam is sandwiched between said first and second substrates.

17. (Original) The foam article according to claim 1, wherein said polymer foam comprises an agent selected from the group consisting of tackifiers, plasticizers, pigments, dyes, solid fillers, non-expandable microspheres, blowing agents and combinations thereof.

18. (Original) The foam article according to claim 1, wherein said polymer foam comprises an acrylic foam.

19. (Previously presented) The foam article according to claim 1, wherein said polymer foam comprises a matrix comprising a blend of two or more polymers wherein at least one of said polymers in said blend comprises a pressure sensitive adhesive polymer and at least one of said polymers is selected from the group consisting of unsaturated thermoplastic elastomers, acrylate monomer-insoluble saturated thermoplastic elastomers, and non-pressure sensitive adhesive thermoplastic polymers.

20. (Previously presented) The foam article according to claim 1, wherein said foam article comprises a polymer composition bonded to said polymer foam.

21. (Previously presented) The foam article according to claim 1, wherein said foam article comprises a plurality of polymer compositions bonded to said polymer foam.

22. (Previously presented) The foam article according to claim 1, wherein said article comprises an adhesive composition bonded to at least one major surface of said polymer foam.

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23. (Previously presented) A foam article comprising a polymer foam, said polymer foam comprising a homogeneous distribution of a plurality of thermoplastic expandable polymeric microspheres, and said plurality of expandable polymeric microspheres being at least partially expanded, wherein said polymer foam has a center and a uniform size distribution of said at least partially expanded expandable polymeric microspheres from the major surfaces to the center of said foam.

24. (Previously presented) The foam article according to claim 23, wherein said polymer foam exhibits a machine (or longitudinal) direction and crossweb (or transverse) direction standard deviation of density or thickness over average density or thickness (σ/x), respectively, of less than about 0.2.

25. (Previously presented) The foam article according to claim 24, wherein σ/x is less than about 0.05.

26. (Previously presented) The foam article according to claim 24, wherein σ/x is less than about 0.1.

27-28 (canceled)

29. (Original) The foam article according to claim 23, wherein said plurality of expandable polymeric microspheres are at least mostly expanded.

30. (Original) The foam article according to claim 23, wherein said polymer foam is an adhesive.

31. (Previously presented) The foam article according to claim 23, wherein said polymer foam was made using polymers having a weight average molecular weight of at least about 10,000 g/mol.

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32. (Original) The foam article according to claim 31, wherein said polymer foam was made using polymers having a weight average molecular weight of at least about 50,000 g/mol.

33. (canceled)

34. (Previously presented) The foam article according to claim 23, wherein said polymer foam was made using polymers having a shear viscosity, measured at a temperature of 175°C and a shear rate of 100 sec⁻¹, of at least about 30 Pascal-seconds (Pa-s).

35. (original) The foam article according to claim 34, wherein said polymer foam was made using polymers having a shear viscosity, measured at a temperature of 175°C and a shear rate of 100 sec⁻¹, of at least about 100 Pa-s.

36. (original) The foam article according to claim 34, wherein said polymer foam was made using polymers having a shear viscosity, measured at a temperature of 175°C and a shear rate of 100 sec⁻¹, of at least about 200 Pa-s.

37-42 (canceled)

43. (Withdrawn) A foam article comprising a polymer foam that includes:

(a) a plurality of at least partially expanded expandable polymeric microspheres, and

(b) a polymer matrix comprising a blend of two or more polymers sufficiently free of urethane crosslinks and urea crosslinks to eliminate the need for isocyanates in said polymer matrix, wherein

at least one of said polymers in said blend comprises a pressure sensitive adhesive polymer that is a reaction product of monomers comprising an acrylate, methacrylate, or combinations thereof and;

at least one of said polymers is selected from polyolefins, polyesters, polyamides, fluorinated polymers, polyalkylene oxides, polyvinyl alcohol, ionomers,

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cellulose acetate, polyacrylonitrile, polyvinyl chloride, thermoplastic polyurethanes, aromatic epoxies, polycarbonate, polydimethyl siloxane, polybutadiene, polyisoprene, polychloroprrene, and ethylene-propylene-diene monomer rubber.

44-46 (canceled)

47. (Withdrawn) The foam article according to claim 43, wherein the polymer matrix is capable of stretch activated release.

48. (Withdrawn) The foam article according to claim 43, further comprising an adhesive layer attached to the polymer foam.

49. (Previously presented) The foam article according to claim 23, wherein said polymer foam comprises a polymer matrix comprising a blend of two or more polymers wherein at least one of said polymers in said blend comprises a pressure sensitive adhesive and at least one of said polymers is an acrylate-insoluble semicrystalline polymer.

50. (Previously presented) The foam article according to claim 1, wherein said polymer foam comprises a polymer matrix comprising a blend of two or more polymers wherein at least one of said polymers in said blend comprises a pressure sensitive adhesive polymer and at least one of said polymers is an acrylate-insoluble semicrystalline polymer.

51. (Withdrawn) The foam article of claim 23, wherein the polymer foam comprises an acrylic foam that is the reaction product of one or more monomeric acrylic or methacrylic esters of non-tertiary alkyl alcohols, wherein the alkyl alcohol has 1 to 20 carbon atoms.

52. (Withdrawn) The foam article of claim 23, wherein the polymer foam comprises an acrylic foam that is the reaction product of a monomer mixture comprising:

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one or more acrylic or methacrylic esters of non-tertiary alkyl alcohols, wherein the alkyl alcohol has 1 to 20 carbon atoms; and

one or more monomers selected from acrylic acid, acrylamide, methacrylamide, N,N-dimethylacrylamide, itaconic acid, methacrylic acid, acrylonitrile, methacrylonitrile, vinyl acetate, N-vinyl pyrrolidone, isobornyl acrylate, cyano ethyl acrylate, N-vinyl caprolactam, maleic anhydride, hydroxylalkylacrylates, N,N-dimethyl aminoethyl methacrylate, N,N-diethylacrylamide, beta-carboxyethyl acrylate, vinyl esters of neodecanoic, neononanoic, neopentanoic, 2-ethylhexanoic, or propionic acids, vinylidene chloride, styrene, vinyl toluene, and alkyl vinyl ethers.

53. (Withdrawn) The foam article of claim 23, wherein the polymer foam comprises an acrylic foam that is the reaction product of a monomer mixture comprising:

one or more acrylic or methacrylic esters of non-tertiary alkyl alcohols, wherein the alkyl alcohol has 1 to 20 carbon atoms; and

one or more monomers selected from ethyloxyethoxy ethyl acrylate and methoxypolyethylene glycol acrylate.

54. (Withdrawn) The foam article of claim 23, wherein the polymer foam comprises a polymer matrix comprising a blend of two or more polymers sufficiently free of urethane crosslinks and urea crosslinks to eliminate the need for isocyanates in said polymer matrix, wherein

at least one of said polymers in said blend comprises a pressure sensitive adhesive polymer that is the reaction product of monomers comprising an acrylate, methacrylate, or combinations thereof;

and at least one of said polymers is selected from unsaturated thermoplastic elastomers, acrylate monomer-insoluble saturated thermoplastic elastomers, acrylate-insoluble semicrystalline polymers, acrylate-insoluble amorphous polymers having a solubility parameter of less than 8 or greater than 11, elastomers containing ultraviolet radiation-activatable groups, and pressure sensitive and hot melt adhesives prepared from non-photopolymerizable monomers.

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55. (Previously presented) The foam article according to claim 23, wherein the polymer foam is capable of stretch activated release.

56. (Previously presented) The foam article according to claim 1, whercin the polymer foam is capable of stretch activated release.

57. (Currently amended) The foam article according to claim 1, further comprising at least one layer comprising a polymer composition, said layer bonded to said polymer foam.

58. (Previously presented) The foam article according to claim 57, wherein the polymer composition comprises an acrylic polymer.

59. (Currently amended) The foam article according to claim 23, further comprising at least one layer comprising a polymer composition, said layer bonded to said polymer foam.

60. (Previously presented) The foam article according to claim 59, wherein the polymer composition comprises an acrylic polymer.

61. (New) A foam article comprising a polymer foam, said polymer foam comprising a homogeneous distribution of a plurality of thermoplastic expandable polymeric microspheres and having at least one of its major surfaces smooth to an Ra value less than about 75 micrometers, as measured by laser triangulation profilometry, said polymer foam being smooth without being bonded to an additional layer, and said plurality of expandable polymeric microspheres being at least partially expanded.